

# LENNTECH

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# Micro-Klean™ D Series

## Depth Filter Cartridges

### A different filter cartridge

Micro-Klean™ D Series filter cartridges, formerly known as CUNO Micro-Wynd, are produced by a special 3M Purification process which combines 2 separate materials simultaneously on a common core.

The filtering media is applied in blanket form whilst the matrix is wound spirally under controlled tension to bind the media blanket in a firm position.

The winding pattern creates wide diamond shaped chambers which provides the exceptional performances in flow and life time of the Micro-Klean D filter cartridges. With the ordinary wound filter cartridge, there is no distinct filtering media, the matrix only is operating. It is brushed and separate during the winding operation. This accounts for the shortness of fibres and lack of the very important necessary quantity of matrix, which shortens considerably the life and lowers flow rates.

### Multi-length cartridges

To eliminate any chance of by-pass at the cartridge joints, Micro-Klean D filter cartridges can be delivered in several lengths but in one piece construction from 9 3/4" to 29". In this case, the media blanket is continuous on the whole length of the cartridge, eliminating overlap winding joints. Integral length cartridges also assure easier and shorter change out.

### Operating conditions

Micro-Klean D filter cartridges are nominally rated (from 1 µm to 150 µm nominal). Maximum service temperature can be up to 120 °C depending on the material selected (refer to the specifications of each type). Maximum differential pressure is 5 bar, but it is recommended to replace them at 2.5 bar.

## Features and benefits

#### Flow capacity up to 3 times higher than the conventional string-wound cartridges

- Reduces total filtration costs

#### Dirt holding capacity up to twice greater

- Reduces total filtration costs

#### Mechanically able to withstand a very high differential pressure

- Reduces total filtration costs

#### High dirt removal efficiency

- Reduces total filtration costs

#### Longer life time

- Less maintenance and production down time
- Decreases waste management costs

#### Approved for food contact use

-  Standard cartridges comply with European and US regulations



### Regulatory compliance

Standard Micro-Klean™ D Series filter cartridges comply with the requirements of Regulation (EC) 1935/2004 for their intended food contact applications. All materials of construction are listed in the FDA CFR Title 21. Contact 3M Purification for further information.

## Applications

### Industrial

- Water
- Acids
- Solvents
- Chemical products, etc. ...

### Food and Beverage

- Ready-to-drink beverages
- Juices
- Alcoholic beverages
- Dairy products
- Process and blending water

## Micro-Klean™ D Series filter cartridges - Ordering guide

PPP TYPE			
Nominal Micron rating (micron)	Simple length (250 mm)	Double length (500 mm)	Triple length (750 mm)
1	D-PPPY	D-PPPY-2	D-PPPY-3
3	D-PPPA	D-PPPA-2	D-PPPA-3
5	D-PPPB	D-PPPB-2	D-PPPB-3
10	D-PPPC	D-PPPC-2	D-PPPC-3
25	D-PPPF	D-PPPF-2	D-PPPF-3
50	D-PPPL	D-PPPL-2	D-PPPL-3
75/150	D-PPPHD	D-PPPHD-2	D-PPPHD-3

CCS TYPE			
Nominal Micron rating (micron)	Simple length (250 mm)	Double length (500 mm)	Triple length (750 mm)
1	D-CCSY	D-CCSY-2	D-CCSY-3
3	D-CCSA	D-CCSA-2	D-CCSA-3
5	D-CCSB	D-CCSB-2	D-CCSB-3
10	D-CCSC	D-CCSC-2	D-CCSC-3
25	D-CCSF	D-CCSF-2	D-CCSF-3
50	D-CCSL	D-CCSL-2	D-CCSL-3
75/150	D-CCSHD	D-CCSHD-2	D-CCSHD-3

CCT TYPE			
Nominal Micron rating (micron)	Simple length (250 mm)	Double length (500 mm)	Triple length (750 mm)
1	D-CCTY	D-CCTY-2	D-CCTY-3
3	D-CCTA	D-CCTA-2	D-CCTA-3
5	D-CCTB	D-CCTB-2	D-CCTB-3
10	D-CCTC	D-CCTC-2	D-CCTC-3
25	D-CCTF	D-CCTF-2	D-CCTF-3
50	D-CCTL	D-CCTL-2	D-CCTL-3
75/150	D-CCTHD	D-CCTHD-2	D-CCTHD-3

Several configurations are possible in combining different materials of the media, matrix and core. Micro-Klean D filter cartridges are available in standard length from 9 3/4" to 29" (integral length) and in DOE version. Longer length (i.e. 40") or SOE versions (with end caps and double O-ring) can be produced upon request.

Depending on the chemical compatibility requested by the application, different configurations can be chosen. However, it is always recommended to check the chemical compatibility by a soaking test in the liquid to be filtered.

### Standard filter cartridge types

#### PPP TYPE

- Polypropylene media, matrix and core.
- Cartridge for applications involving strong acid, concentrated alkalis, strong oxidising and reducing agents, electroplating and other chemicals in aqueous solutions.
- Not suitable for hydrocarbon type solvents such as hexane, naphtha, petroleum, ether, etc. Maximum service temperature: 80 °C (60 °C for double and triple lengths).

#### CCS TYPE

- Cotton media and matrix, 304 stainless steel core.
- Proposed for general fluid applications. Temperature up to 120 °C - dilute acids (1%), dilute alkalis (5%). For gases, the temperature must not exceed 100 °C.

#### CCT TYPE

- Cotton media and matrix, 316 stainless steel core.
- Proposed for all general fluids at temperature rating up to 120 °C. For gases, temperature must not exceed 100 °C.
- Same applications as for the CCS but greater chemical resistance of the core to acids and alkalis.

### Special filter cartridge types

Other materials combinations can be produced on request with minimum order quantities, particularly the following types:

- D-PPS: polypropylene media and matrix, 304 SS core
- D-PPT: polypropylene media and matrix, 316 SS core
- D-CCP: cotton media and matrix, polypropylene core
- D-CCF: cotton media and matrix, tinned steel core.

**Note:** Micro-Klean D is new name of CUNO Micro-Wynd.

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